

### **REMARKS**

Claims 1-39 and 41-45 are pending in this application. Claims 1, 22, 35, 39 and 42 are independent. Claim 40 has been canceled.

Reconsideration of this application, as amended, is respectfully requested.

### **DRAWING OBJECTIONS**

The Examiner has objected to the drawings as failing to show every feature of the invention specified in the claims. Specifically, the Examiner has alleged that the feature of the first, second, third and fourth intervals which vary along the length of the cable has not been illustrated in the drawing figures. Applicants respectfully disagree.

Figure 6 clearly shows that each of the twisted wire pairs has an interval, which is represented by one of the variables w, x, y and z. The specification clearly indicates that these variables vary along the length of the cable. It is respectfully submitted that the variation can be as little as +/- 0.01 inches (See Applicant's claim 35). Illustrating such a minute variation is not practical in the drawing figures. Rather, it is more practical and understandable to one of ordinary skill in the art, that the interval would be represented by a variable, such as w, x, y or z, and that it would be clearly indicated that such a variable could vary in length.

A similar objection has been made to the drawing figures regarding the core length, i.e., fifth interval, which varies along the length of the cable. Again, Applicants' Figure 11 illustrates that the core length is represented by a variable  $v$ . The specification clearly indicates that the variable  $v$  is a varying length. Hence, the varying core length is illustrated in Figure 11. Moreover, Applicants' invention specifies that the core twist length may vary by as little as  $\pm 0.01$  inches (see claim 37). It would not be practical to illustrate a variation of only 0.01 inches in a drawing figure. Rather, it is more clear to one of ordinary skill in the art that the interval be represented by a variable.

Accordingly, reconsideration and withdrawal of the objection to the drawings are respectfully requested.

### **OBJECTION TO THE SPECIFICATION**

The Examiner has objected to a grammatical informality in the specification. Applicants thank the Examiner for the suggested revision. The application has been revised, as suggested by the Examiner.

### **CLAIM OBJECTIONS**

The Examiner has objected to claims 1-45 for the same grammatical formality, as noted with regard to the specification. Again,

Applicants have corrected the grammatical informality in the claims, as suggested by the Examiner.

**REJECTION UNDER 35 U.S.C. § 112**

Claims 1-45 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed.

The Examiner alleges that the term “purposefully” renders the claims indefinite, and the Examiner suggests that the term be deleted.

In order to expedite examination of the application, Applicants have deleted the term “purposefully” from the claims, as suggested by the Examiner.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

**REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103**

Claims 1-4, 20, 22-24 and 39-41 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP6-349344 (JP’344). Claims 5-12 and 25-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP’344. Claims 1, 13-19, 21-22, 31-38 and 42-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zebrs in view of JP’344. These rejections are respectfully traversed.

JP'344 illustrates a cabling media having twisted wire pairs. The Examiner is correct that Figure 3 illustrates that the interval of a twisted wire pair varies along the length of the cable. For instance, pair  $12_1$ , in Figure 3, has three pitches ( $P_{13}$ ,  $P_{12}$  and  $P_{11}$ ) along the length  $L$  of the cable.

JP'344 is concerned that the pitch or interval of one twisted pair is never the same as the pitch or interval of another twisted pair in the immediate adjacent vicinity (Such as  $L_C$ ,  $L_B$  and  $L_A$ ). For example,  $P_{13}$  is different than  $P_{23}$ , which is different than  $P_{n3}$ .

What is interesting to note in Figure 3 is that the pitch of the wire pairs changes in different intervals  $L_C$ ,  $L_B$  and  $L_A$ . These intervals are the same for each of the wire pairs. This is because JP'344 is attempting to have "a continuous twist pitch change for every constant length regulator of each pair." See the partial English translation of the Abstract provided by the Examiner. In other words, in JP'344, the mean or average twist ratio for each of the wire pairs is the same. This is how JP'344 accomplishes the goal of preventing signal lag time. See the English translation of the "advantage," as provided by the Examiner.

If one were to untwist the conductors of pair  $12_1$  of JP'344, and were to untwist the wire pairs of the remaining pairs, such as  $12_2$  and  $12_n$ , one would note that the conductors are all the same length. This arrangement prevents signal time lag. In other words, a signal

introduced on pair 12<sub>1</sub> will arrive at the same time as a signal simultaneously introduced on the pair 12<sub>2</sub>. Therefore, JP'344 has a rather complex system of varying the pitch in certain intervals L<sub>C</sub>, L<sub>B</sub> and L<sub>A</sub>.

The pitch is not varied in a random manner. Rather, the pitch is set to a value for a predetermined interval and then switched to another value for another predetermined interval, etc. It is important that the interval length and the pitch value be determined based upon a formula, so that the overall twist pitch remains constant over the entire length L of the cabling media. Otherwise, there would be a signal lag between the pairs in the cabling media.

The present invention, as set forth in the amended claims is quite distinct from JP'344. Independent claims 1, 22, 35 and 39 recite respective combinations of structural features or method steps. Each of the combinations recites that a first twisted wire pair is twisted at a first interval which varies along the length of the cabling media, a second twisted wire pair is twisted at a second interval which varies along the length of the cabling media, and the first range of values for the first interval has a first mean value and the second range of values for the second interval has a second mean value. Each of the combinations, as amended, now recites that the first mean value is different than the second mean value.

This is a clear distinction over JP'344. In JP'344, the mean value of the twist ratio of the first pair is equal to the mean value of the twist ratio of the second pair. If such were not the case, there would be a signal time lag along the cable. Moreover, it would not be obvious to one of ordinary skill in the art to modify JP'344 so that the first mean value is different than the second mean value. To do so would destroy the "advantage" of the invention, which is to prevent signal lag time. Therefore, such a modification is taught away from by the disclosure of JP'344.

Should the Examiner continue to apply the JP'344 reference, Applicants respectfully request that the Examiner provide a full English translation of the reference, so that the Examiner's position regarding the reference can be better understood.

The Examiner rejected claims 5-12 and 25-30 as being unpatentable over JP'344. Applicants respectfully disagree.

The Examiner stated that it would have been obvious to one of ordinary skill in the art to have selected certain ranges of values and mean values that were within the general conditions of the prior art. Such is not the case at hand.

For example, Applicants' claims 5-8 set forth that the mean values are different, 0.44, 0.41, 0.59 and 0.67 inches, respectively. Such values are outside of the general conditions of JP'344. JP'344 would require

that the mean values all be equal. Therefore, Applicants' values, which are not equal, are not suggested by the prior art of record and are therefore unobvious.

Moreover, there is no suggestion in JP'344 that the range of values for the twisted pairs could be different from each other. It would appear that in JP'344 each of the twisted pairs has the same range of values for the twist length.

Zerbs has been cited as teaching that twisted wire pairs can be completely twisted about each other to form a core strand having a core strand length. Zerbs does not address varying the core strand length along the length of the cable.

The Examiner asserts that JP'344 supplies the missing disclosure. Applicants respectfully disagree. JP'344 makes no mention of varying a core stand length along the length of the cable. Rather, JP'344 only mentions varying the twist ratio of individual wire pairs.

The focus of JP'344 is to prevent internal crosstalk between adjacent wire pairs within a cabling media. This is done by assuring that pairs, located side by side, never have the same twist interval. JP'344 has no concern with alien crosstalk, i.e. crosstalk between one cabling media and an adjacent cabling media. Therefore, it is not understood why JP'344 would suggest twisting the twisted pairs about each other to form a core strand interval.

For the reasons as stated above, reconsideration and withdrawal of these rejections are respectfully requested.

### **CONCLUSION**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Scott L. Lowe (Reg. No. 41,458) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Applicant(s) respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and 1.17 for a one-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of \$110.00 is attached hereto.

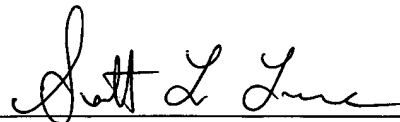
If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees



required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly,  
extension of time fees.

Respectfully submitted,

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